

WHAT IS CLAIMED IS:

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1. A network system comprising:

5 (a) a plurality of terminals which send and receive packets, each terminal belonging to one of a plurality of logical groups;

10 (b) a plurality of switches which interconnect said plurality of terminals by receiving and forwarding the packets originating from said terminals, each of said switches comprising:

first storage means for storing information that is used to identify logical group membership of the source terminal of a received packet,

15 query means for sending a query to request information about the logical group membership, when said first storage means has failed to provide sufficient information to identify the logical group membership of a particular source terminal, and

20 updating means for updating the information stored in said first storage means according to a response to the query sent by said query means; and

(c) a server which control said plurality of switches, comprising:

25 second storage means for storing a list of identifiers of the terminals, in association with the logical groups to which the terminals belong,

searching means for searching said second storage

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means in response to the query from said requesting switch,
and

transmission means for receiving a search result
from said searching means and sending the search result to
5 said requesting switch.

2. The network system according to claim 1,
wherein said transmission means sends the search result to
other switches in addition to said requesting switch.

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3. The network system according to claim 1,
wherein said server further comprises supposition means for
suggesting a specific logical group to which said source
terminal in question is supposed to belong, based on the
15 identifier of the source terminal, when said searching
means has failed to provide the requested information.

4. The network system according to claim 3,
wherein said server further comprises logical group
20 producing means for producing a new logical group when said
supposition means has failed to suggest any specific
logical group for said source terminal in question.

5. The network system according to claim 1,
25 wherein:

said server further comprises third storage means
for storing a list of the switches being available in the

network system, in association with a list of the logical groups that can be assigned to the terminals belonging to each switch's local terminal group; and

when the query is received from said requesting
5 switch, said server consults said third storage means to find logical groups relevant to said requesting switch, and if the relevant logical groups do not include the logical group to which said source terminal in question is supposed to belong, prevents enrollment of said source terminal to
10 the non-included logical group.

6. The network system according to claim 5, wherein said server further comprises notification means for so notifying an administrator if said requesting switch
15 is not included in the list of the available switches.

7. The network system according to claim 5, wherein said server further comprises registration means for adding an entry for said requesting switch to said
20 third storage means, when the list of the available switches does not include said requesting switch.

8. A switch for use in a network system where a plurality of terminals are interconnected by a plurality
25 of switches that receive and forward packets originating from the terminals under the control of a server, the switch comprising:

storage means for storing information that is used to identify logical group membership of the source terminal of a received packet;

query means for sending a query to the server to
5 request information about the logical group membership, when said storage means has failed to provide sufficient information to identify the logical group membership of a particular source terminal; and

updating means for updating the information stored
10 in said storage means according to a response to the query sent by said query means.

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9. A server for use in a network system, which controls a plurality of switches that interconnect a
15 plurality of terminals by receiving and forwarding packets originating from the terminals, the server comprising:

storage means for storing a list of identifiers of the terminals, in association with logical groups to which the terminals belong;

20 searching means for searching said storage means in response to a query from one of the switches; and

transmission means for receiving a search result from said searching means and sending the search result to the switch that has sent the query.

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10. A computer-readable medium which stores a computer program being designed to run on a computer in

order to cause the computer to function as a server comprising:

storage means for storing a list of identifiers of terminals, in association with logical groups to which the
5 terminals belong;

searching means for searching said storage means in response to a query from one of the switches; and

transmission means for receiving a search result from said searching means and sending the search result to
10 the switch that has sent the query.